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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,922	10/19/2001	Junmyoung Song	2777-0193P	6320

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EXAMINER

PATTERSON, MARC A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/981,922

Applicant(s)

SONG ET AL.

Examiner

Marc A Patterson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

WITHDRAWN REJECTIONS

1. The 35 U.S.C. 112 second paragraph rejections of Claims 1 – 5, 35 U.S.C. 102(b) rejection of Claims 1 – 2 as being unpatentable over Shikama et al (U.S. Patent No. 5,718,953) and 35 U.S.C. 103(a) rejection of Claims 3 – 5 as being unpatentable over Shikama et al. (U.S. Patent No. 5,718,953) in view of Kuze et al (U.S. Patent No. 4,454,312) of record on page 2 of the previous Action, are withdrawn.

NEW REJECTIONS

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shikama et al (U.S. Patent No. 5,718,953).

With regard to Claims 1 – 2, Shikama et al disclose a heat – shrinkable tube (column 1, lines 45 – 49) for covering a condenser (column 5, lines 58 – 64), comprising a polyester resin (column 3, lines 44 – 54) and 2% by weight (column 4, line 16) of a particle (silica; column 3, lines 55 – 67) having a diameter of 0.5 μm (column 4, line 2) which provides slipperiness to the tube (column 3, lines 55 – 67). Shikama et al fail to disclose a slipperiness of 300 to 800 grams – force. However, Shikama et al disclose a slipperiness of at least 1 gram force (the particle

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provides slipperiness; column 3, lines 55 – 67). Therefore, the slipperiness would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the slipperiness, since the slipperiness would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Shikama et al, in the absence of unexpected results. *In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980)*.

4. Claims 3 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shikama et al. (U.S. Patent No. 5,718,953) in view of Kuze et al (U.S. Patent No. 4,454,312).

Shikama et al disclose a polyester composition as discussed above. With regard to Claims 3 – 5, Shikama et al fail to disclose a composition comprising 80 to 99% weight percent of a copolymer resin comprising 1 to 15 mol % of polyethylene naphthalate and 85 to 99 mol % polyethylene terephthalate and having an intrinsic viscosity of 0.65 to 1.0 dl/g, 1 to 20% of a resin comprising polybutylene terephthalate, a pigment, and 0.01 to 1.1% by weight of a metal salt of benzoic acid.

Kuze et al teach a polyester composition comprising 100% by weight of a copolymer of polyethylene terephthalate, polyethylene naphthalate and polybutylene terephthalate (column 2, lines 31 – 51) having an intrinsic viscosity of 0.638 dl/g (column 8, lines 34 – 49), a pigment (titanium dioxide; column 1, lines 21 – 32) and a metal salt of benzoic acid (potassium benzoate; column 3, line 57) for the purpose of obtaining a composition having excellent slip properties (column 1, lines 8 – 20). The desirability of providing for 100% by weight of a copolymer of

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polyethylene terephthalate, polyethylene naphthalate and polybutylene terephthalate, a pigment and a metal salt of benzoic acid in Shikama et al, which is a polyester composition, would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for 100% by weight of a copolymer of polyethylene terephthalate, polyethylene naphthalate and polybutylene terephthalate having an intrinsic viscosity of 0.638 dl/g, a pigment and a metal salt of benzoic acid in Shikama et al in order to obtaining a composition having excellent slip properties as taught by Kuze et al.

Kuze et al fail to teach a composition comprising 1 to 15 mol % polyethylene naphthalate, and 85 mol % polyethylene terephthalate, and 1% polybutylene terephthalate, and an intrinsic viscosity of 0.65 to 1.0 dl/g, and 0.01 to 1.1% by weight of a metal salt of benzoic acid. However, Kuze et al teach a copolymer comprising 33 mol % polyethylene naphthalate, polyethylene terephthalate, and polybutylene terephthalate (column 2, lines 31 – 51), an intrinsic viscosity of 0.638 dl/g (column 8, lines 34 – 49) and at least 0.001% by weight of a metal salt of benzoic acid (the composition comprises benzoic acid; column 3, line 57). Therefore, the amounts of components in the copolymer, the intrinsic viscosity and the amount of metal salt would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the amounts of components in the copolymer, the intrinsic viscosity and the amount of metal salt, since the amounts of components in the copolymer, the intrinsic viscosity and the amount of metal salt would be readily determined through routine

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optimization by one having ordinary skill in the art depending on the desired end result as shown by Kuze et al. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

With regard to the claimed aspect of the polybutylene terephthalate being ‘melted with a pigment,’ the scope of the claims falls within the limitations of Shikama et al and Kuze et al as discussed above. The method of making the polyester composition (product – by – process) is given little patentable weight. Applicant would need to demonstrate, by verified showing, the unexpected advantages accruing from the method of making as claimed.

ANSWERS TO APPLICANT’S ARGUMENTS

5. Applicant’s arguments regarding the 35 U.S.C. 112 second paragraph rejections of Claims 1 – 5, of record on page 2 of the previous Action, have been considered and have been found to be persuasive. The rejections are therefore withdrawn.

Applicant’s arguments regarding the 35 U.S.C. 102(b) rejection of Claims 1 – 2 as being unpatentable over Shikama et al (U.S. Patent No. 5,718,953) and 35 U.S.C. 103(a) rejection of Claims 3 – 5 as being unpatentable over Shikama et al. (U.S. Patent No. 5,718,953) in view of Kuze et al (U.S. Patent No. 4,454,312), of record on page 2 of the previous Action, have been considered but have not been found to be persuasive for the reasons set forth below.

Applicant argues, on the second page of the remarks (pages not numbered), that the rejection is improper because although Shikama et al disclose a heat –shrinkage tube which contains polyester, there are no working examples containing polyester; therefore, Applicant argues, Shikama et al cannot be supported by the examples and cannot be performed by a person

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of ordinary skill in the art. However, as stated on page 2 of the previous Action, Shikama et al disclose the use of polyester and therefore anticipate the claimed invention.

Applicant also argues, on the third page, that the combination of Kuze et al with Shikama et al is questionable because Kuze et al requires the use of zirconium particles to promote slipperiness and does not suggest the use of talc or silica. However, as stated on page 2 of the previous Action, Kuze et al teach a polyester composition comprising 100% by weight of a copolymer of polyethylene terephthalate, polyethylene naphthalate and polybutylene terephthalate (column 2, lines 31 – 51) having an intrinsic viscosity of 0.638 dl/g (column 8, lines 34 – 49), a pigment (titanium dioxide; column 1, lines 21 – 32) and a metal salt of benzoic acid (potassium benzoate; column 3, line 57) for the purpose of obtaining a composition having excellent slip properties (column 1, lines 8 – 20). The desirability of providing for 100% by weight of a copolymer of polyethylene terephthalate, polyethylene naphthalate and polybutylene terephthalate, a pigment and a metal salt of benzoic acid in Shikama et al, which is a polyester composition, would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for 100% by weight of a copolymer of polyethylene terephthalate, polyethylene naphthalate and polybutylene terephthalate having an intrinsic viscosity of 0.638 dl/g, a pigment and a metal salt of benzoic acid in Shikama et al in order to obtaining a composition having excellent slip properties as taught by Kuze et al.

Applicant also argues on the third page that in Kuze et al no polyester resin, other than polyethylene terephthalate, is used. However, as stated above it is clear that Shikama et al also disclose a tube which comprises polyester. Therefore, as stated above, it would have been

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obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for 100% by weight of a copolymer of polyethylene terephthalate, polyethylene naphthalate and polybutylene terephthalate having an intrinsic viscosity of 0.638 dl/g, a pigment and a metal salt of benzoic acid in Shikama et al in order to obtaining a composition having excellent slip properties as taught by Kuze et al.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.

Marc Patterson
Art Unit 1772

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

9/15/03